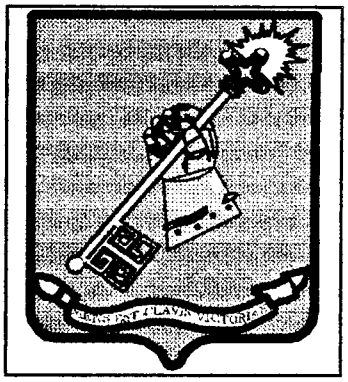
TRAINING THE VERSATILE STAFF

A Monograph
by

Major Kevin J. Doyle
Military Intelligence



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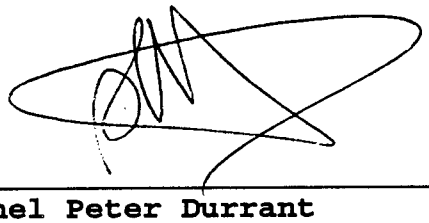

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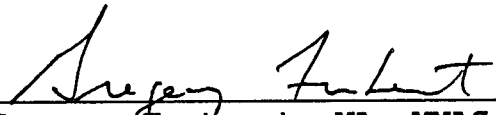

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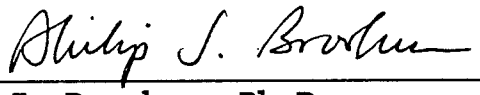

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ABSTRACT

TRAINING THE VERSATILE STAFF by MAJ Kevin J. Doyle, USA, 48 pages.

This monograph discusses how division commanders might better train their staffs to be versatile. Since all Army divisions, in effect, are contingency units in the post Cold War security environment, versatility is imperative. Division commanders will need versatile staffs to enable the unit to produce sound plans for deployment to and operations in unfamiliar environments on short notice. This monograph examines how the staff is affected by the requirement to produce quality plans and estimates under conditions of uncertainty, and how division commanders can train versatile staffs.

The monograph first outlines the changes in the US security environment which have made versatility an imperative, and demonstrates the value of a versatile staff to the division as a whole. Next, it shows that the commander can not be confident that his staff is versatile unless he has assessed their versatility in training or operations; it is not sufficient to assess the staff against the "worst-case" threat. It first shows this by historical examples - Napoleon after 1809; US Army forces defending against the Chinese attack in Korea in December, 1950; and US Army forces' MOUT operations in JUST CAUSE - of staffs which were well trained, yet lacked versatility. It then examines reasons why otherwise well trained staffs might not be versatile. The monograph demonstrates both theoretically and by practical examples that it is feasible to train staffs to be versatile.

Finally, the monograph outlines a process for staff versatility training based on the training management doctrine from Field Manual 25-100, Training the Force. It concludes that staff versatility training requires the commander to assess versatility by examining his staff's capabilities in varying scenarios and missions, and that training for versatility requires: establishing very broad doctrinal knowledge, teaching the staff to gather and learn new information under time pressure, and training the staff to perform quick, bias-free analysis. It further concludes that the staff is best trained for versatility when they are forced to perform under time pressure, facing new scenarios and missions rather than being forced to analyze one "worst-case" scenario in great depth.

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I. INTRODUCTION

In 1993, the Army added the tenet of *versatility* to those of agility, initiative, depth, and synchronization. Although the Army has always prided itself on *being* versatile, it had never before defined versatility as a doctrinal imperative. This doctrinal addition came about because of the change in our national security environment resulting from the fall of the Soviet Union. Our military forces are now smaller, more tailorable, more CONUS-based forces organized for force projection in support of multiple contingencies, rather than being structured, equipped, and trained in large part for the European General Defense mission.

Large organizations such as governments and armies change slowly. Although the Berlin Wall fell over five years ago, in 1994 the administration, in "A National Security Strategy of Engagement and Enlargement", reminded that:

> A new era is upon us. The Cold War is over. The dissolution of the Soviet Empire has radically transformed the security environment facing the United States and our allies. The primary security imperative of the last half century - containing communist expansion while preventing nuclear war - is gone. We no longer face massive Soviet forces across an East-West divide nor Soviet missiles targeted on the United States and ready to fire. Yet there remains a complex array of new and old security challenges America must meet as we approach a new century.[1]

To address these challenges the administration went on to state that the "United States must deploy robust and flexible military forces that can accomplish a variety of

tasks..." These tasks include "Dealing with Major Regional Contingencies, Providing a Credible Overseas Presence, Countering Weapons of Mass Destruction, Contributing to Multilateral Peace Operations, and Supporting Counterterrorism Efforts and Other National Security Objectives."[2]

Additionally, the demise of the Soviet Union has caused the US military force structure to shrink. Smaller defense budgets are likely for the foreseeable future.

For all of these reasons, the Army now considers *versatility* a necessary quality for its units:

> Versatility is the ability of tactical units to meet diverse mission requirements. Commanders must be able to shift focus, tailor forces, and move from one role or mission to another rapidly and efficiently. Versatility implies a capacity to be multifunctional, to operate across the full range of military operations, and to perform at the tactical, operational, and strategic levels....Versatility is the ability of tactical units to adapt to different missions and tasks, some of which may not be on unit mission essential task lists (METL). Army units have always been versatile; in World War II, Korea, and Vietnam, they adapted quickly to the environment and the tactics of the enemy....Forces must be prepared to move rapidly from one geographical region to another and from one type of warfare to another in quick succession....The same is true for operations other than war.[3]

So the Army recognizes the obvious: a small, CONUS-based army with diverse threats must be more versatile than a large, specialized army with a General Defense Plan (GDP) focus. However, even though FM 100-5 rightly states that "Army units have always been versatile"[4], commanders can not simply declare their units versatile without considering

versatility in their training plans. FM 100-5 goes on to state "Versatility is the result of well-led, well-trained, and well-equipped forces; high standards; and detailed planning."[5] The "detailed planning" is a product of a well-trained, versatile staff. In other words, a versatile unit needs a versatile staff. This monograph examines the capabilities and benefits of a versatile division staff, and how division commanders might train their staffs to be versatile.

The versatility imperative places great pressure on unit training. In a perfect world, with unlimited training resources and time, units would be ready for any doctrinal mission in any environment, regardless of warning time. In the real world, commanders must analyze mission requirements, determine mission essential tasks, conditions, and standards, and apply resources to achieve the best possible balance of versatility and high standards. The result may be a longer list of mission essential tasks, and a wider range of conditions statements and standards for each task.

The army has not yet agreed that operations other than war (OOTW) should be included in unit METL. FM 100-5 flatly states "The Army organizes, trains and equips to fight and win the nation's wars. This remains its primary mission. The leadership, organization, equipment, discipline, and skills gained in training for war are also of use to the government in operations other than war."[6] This implies

that unit METL should still focus primarily on warfighting, but of course does not absolve the Army from the responsibility to be prepared to conduct OOTW as required.

Longer METLs, more varied conditions, and the requirement to be prepared for OOTW (even if OOTW is not included specifically on METL) place great demands on the staff and staff planning. At the division level, the staff's "primary emphasis is on planning and supervising the execution of tactical operations"[7]; its size and focus make it the first level at which formal planning becomes feasible. The staff plans for future operations and supports decision-making by using the tactical decision-making process. FM 101-5 outlines nine steps in the deliberate decision-making process:

Step 1. Receive the mission
Step 2. Gather facts and make assumptions
Step 3. Mission analysis
Step 4. Commander's guidance
Step 5. Develop courses of action (COA)
Step 6. Analyze COA
Step 7. Decision
Step 8. OPORD/FRAGO
Step 9. Execution/supervision[8]

Expanded METL and conditions, and the requirement to be prepared for OOTW, mean that the staff is likely to have limited knowledge of future missions and environments, as well as severely limited time to plan for the specifics of a new mission. Limited knowledge combined with short warning times will affect the decision-making process in the following ways:

- As the number of possible missions and environments

increases, the staff's depth of knowledge about any one mission or environment will decrease. Therefore, the task of gathering facts and making assumptions (step 2) will be tougher. In effect, the staff will need to become adept at learning quickly for each new mission.

- Mission analysis (step 3) is more difficult if a staff is approaching a mission or environment which is unfamiliar or poorly defined. As an example, the development of implied tasks for an unfamiliar mission is necessarily more difficult than for a familiar mission.

- The staff's ability to design and compare COA (steps 5 and 6) will be affected by their unfamiliarity with missions or environments. The staff will be more or less dependent on doctrine rather than experience, depending on the degree of unfamiliarity.

- Staff individual and group biases may tend to inhibit their ability to analyze and solve problems under conditions of uncertainty.

This monograph attempts to answer the question: How can division commanders better train their staffs to be versatile? It will also answer the following questions:

- What is the benefit of a versatile division staff?

- Can commanders be confident that an otherwise well-trained staff is versatile by its nature?

- What skills can make a staff more or less versatile, and how can commanders train to improve these skills?

II. THE VERSATILE DIVISION STAFF

Simply put, the versatile division staff performs all of its tasks to the same high standard regardless of assigned mission or environment. This is implied in the FM 100-5 definition of versatility: "the ability of tactical units to adapt to different missions and tasks, some of which may not be on unit mission essential task lists."[9] More specifically, a staff which is versatile produces high quality analysis and recommendations to the commander as a result of the tactical decision-making process regardless of the mission or environment.

The staff is unlikely to have practical experience in every type of possible mission. Staff officers must have a very broad base of doctrinal knowledge (rather than a great deal of knowledge in fewer doctrinal missions or tasks), the ability to learn quickly, and the ability to analyze without bias. For example, operations officers must be knowledgeable about all combat and OOTW missions on which their division might be called to perform. Intelligence officers must be able to analyze the capabilities of any enemy, rather than relying on doctrinal templates and well-developed threat models.

In sum, a relative lack of knowledge about future missions and conditions, combined with constrained planning time, mean that a versatile staff must have a **broad base of doctrinal knowledge** covering all possible wartime missions as well as OOTW; be **skilled at gathering information and**

learning quickly about a new mission or environment; and be capable of high quality, speedy, bias-free analysis.

A staff capable of high quality planning and decision support in any situation is a great combat multiplier for the division. A versatile staff can do the following for its division:

- Mitigate the risk which the division commander takes if he decides to focus subordinate unit METL on warfighting missions only.

- Prepare the division for a wide spectrum of missions by developing a wide range of contingency plans prior to the division's commitment.

- Develop "contingency training plans" which will help the division transition to war or OOTW after alert. These plans would identify training objectives, resources required, training priorities, and other factors for training of units during transition to a contingency.

- Provide high quality plans during operations which help clarify and reduce uncertainty for new missions.

Certainly, good analysis, the ability to gather facts and assumptions, and the ability to learn quickly in unfamiliar or ambiguous situations, are inherent traits which good staffs should have (otherwise they should not be considered "good"). The training question is: Can a commander be confident that his staff is versatile enough to win if they have demonstrated their capabilities in a "worst case" high intensity scenario or war? If not, how can a

commander measure versatility in training, and provide the appropriate conditions for staff versatility to improve?

III. STAFFS ARE NOT INHERENTLY VERSATILE

The US Army is justifiably proud of its versatility. Its mixed force structure, culture, individualism, and reliance on the skills and initiative of soldiers and leaders tend to make the US Army more versatile than many nations' armies. The very fact that the army now recognizes it as a doctrinal tenet is an indicator of the institutional value of versatility. Even so, versatility is more than just a positive attitude and a willingness to assume any mission, any time, anywhere. The qualities which make a staff versatile are not necessarily inherent in an otherwise well trained staff.

Napoleon Bonaparte performed most modern staff functions personally, so he combined much of what we count as staff functions with those of command. He was arguably more susceptible to analytical bias than if he had a modern staff. Even so, his performance gives a very good example of a commander insufficiently versatile to adjust to new conditions of war.

Dr. Robert M. Epstein makes the convincing argument that Napoleon was not versatile enough to continue to win after 1809, the year in which the Austrians showed that the rest of Europe had started to imitate Napoleon's methods of war. In early campaigns such as Austerlitz and Jena-Auerstadt, Napoleon convincingly defeated forces which were,

in effect, eighteenth-century armies. His opponents lacked a flexible corps structure, had not mobilized their entire national resources for war, and had excessively centralized command and control. After 1809 the rest of Europe took steps to modernize their ways of waging war, including the creation of combined-arms corps, the adoption of distributed maneuver, and the mobilization of the entire nation's resources for war.

Napoleon detected many of the changes in his opponents' approach to warfare but apparently did not comprehend the impact the changes would have on how wars were fought. He continued to pursue the decisive battle, now virtually impossible because of the development of resilient, symmetrically structured and organized armies. This combined lack of operational and tactical versatility cost him dearly.[10]

More recently, US armed forces in Korea demonstrated a lack of versatility during their failed defense against the Chinese intervention beginning November 25, 1950. The units of Eighth Army and X Corps had a tough task before them as they prepared to continue their attack north to the Yalu River. The Chinese had secretly concentrated 30 divisions with 300,000 soldiers in North Korea in preparation for their offensive.[11] United Nations forces at the same time were confidently attacking north against a fleeing North Korean enemy, and making plans to begin redeployment by Christmas. The Chinese attacked with strong formations

against US forces uncertain of enemy strength, disposition, and intentions. Even the most versatile staffs and units could have lost this fight. Even so, what made historians Eliot Cohen and John Gooch call the defeat of the US Eighth Army in Korea a failure was a lack of versatility[12].

Shaped by World War II and the emerging Cold War, United States forces in Korea emphasized mechanization, technology, and air power rather than infantry. Matthew Ridgway found that defeated US Army units seemed to have lost many basic infantry skills: they failed to seize the high ground, became road-bound, and lost contact with enemy infantry units to their front.[13] Additionally, they had a strong belief in the ability of air power to interdict lines of communication such as roads and railroads, as well as mechanized enemy forces. The Chinese People's Liberation Army (PLA) perceived that US forces were vulnerable; they believed US Army units were too dependent on technology, were weak in night fighting and hand-to-hand combat, and would lose cohesion if cut off or surrounded.[14]

US forces enjoyed great success fighting the Soviet-trained and organized North Korean People's Army (NKPA) in the months immediately following the Inchon landing. Once the Chinese attacked, however, staffs and commanders at all levels (with the notable exception of the 1st Marine Division) failed to adjust to the new enemy. Rather than analyze the problem of fighting an army relying almost completely on infantry, US forces instead saw what they

wished to see: a "watered-down version of the NKPA"[15]. As a result, they did not adequately adjust either tactically or operationally. Cohen and Gooch summed up the lack of versatility: "The failure of American leaders fully to understand that the enemy's situation and their own bore little resemblance to those they had faced less than a decade before best explains the debacle in North Korea."[16]

Even after successful operations the army can learn lessons in versatility. In Operation JUST CAUSE, US forces demonstrated great versatility, rapidly deploying a joint force into Panama, protecting American citizens, neutralizing the Panamanian Defense Forces, capturing Manuel Noriega, and helping the Panamanians start to build a democratic government. Yet, army units were not as well prepared for military operations in urbanized terrain (MOUT) as they should have been due to a shortage of training facilities and a lack of emphasis on MOUT training in units and staffs.

Planning had been ongoing for two years prior to JUST CAUSE, and many units had even had a chance to rehearse the operation prior to its execution. Even so, the Center for Army Lessons Learned (CALL) noted many lessons that a more versatile staff could have learned prior to the event: "Street lights in the city need to be part of METT-T considerations"; "Fire converging sheaves or individual tubes to reduce collateral damage during MOUT"; "Secure building access and control the rooftops"; "Employ

concussion grenades instead of fragmentation grenades for room clearing"; "Emphasize restraint in use of force during building/room clearing."[17] Estimates of civilian casualties in JUST CAUSE range from 202 (SOUTHCOM's initial rough estimate) to several thousand (probably inflated)[18]. Although staff problem solving is only one part of this lesson, more versatile staffs could have been better prepared for the MOUT conditions confronted during Operation JUST CAUSE.

Clearly, commanders should not assume that an otherwise well-trained staff is inherently versatile. In order to determine *why*, commanders first must understand why staffs might perform poorly when confronted with new missions or environments.

Lack of broad doctrinal or military knowledge can be caused by a shortfall in general military education or by an individual's inability to retain the knowledge gained in an institution. If a soldier never has to use the doctrinal knowledge he gained in a school, he is more likely to experience erosion in that knowledge. This could have been the source of the versatility failure in JUST CAUSE. Lacking the opportunity to train routinely on MOUT, it is possible that the staff officers actually experienced an erosion in their knowledge of these very specialized operations. It is even possible that this (assumed) lack of knowledge could have restricted the staff's ability to gather information and learn during the planning phase for

the operation; lacking knowledge, the staff would be less able to determine the proper questions to ask.

A staff with sufficient doctrinal knowledge must also be capable of fast learning about a new mission and environment. An inability to learn new information quickly can be caused by a number of factors. These factors include:

- A staff officer may not know what he needs to learn to be successful. This might be from a lack of doctrinal knowledge, poor situation assessment or analysis, or lack of practical experience.

- It may not be apparent where the needed information is, or how to obtain it. This is especially true today, since our nation is requiring tactical units to be capable of operating at the operational and strategic levels of war and OOTW. Therefore, it will not suffice in many circumstances to simply "request information from higher headquarters."

- Lack of experience combined with poor analysis may make it difficult or impossible to judge good from bad information, as well as to judge what information is most important to the mission. In short, effective processing of information is greatly dependent on doctrinal knowledge and analytical capability. As an example, Intelligence Preparation of the Battlefield (IPB) and wargaming, based on known facts and assumptions and initial analysis, generates new information requirements which we call Commander's

Critical Information Requirements (CCIR). If our basic knowledge or analysis is faulty, then the structure which we create for information processing will likewise be flawed.

Part of the US forces lack of versatility in the initial fight against the Chinese in Korea can be attributed to this inability to collect the proper information. Since they expected to fight a force similar to the NKPA (which they had been very successful against), they tended to collect and look for information which confirmed their predisposition. They did not do as well determining Chinese strength, dispositions, and tactics, partly because they were looking for them in the same way that they looked for the NKPA.

Knowledge, and the ability to learn new information quickly, affect and are affected by the ability to analyze new situations. However, even given a solid doctrinal foundation and good access to information bearing on a new problem, quick, high quality analysis is not pre-ordained. Among the greatest impediments to good, fast analysis are individual and institutional biases.

FM 34-3, Intelligence Analysis, states that analysis can be affected by cultural, organizational, personal, and cognitive biases. Cultural biases are those outlooks or ways of thinking which are dependent on one's way of life or the culture in which one is raised. Personal biases are those which result from thought patterns which have resulted in success in the past. Organizational biases are those

which are the result of the mission, structure, culture or hierarchy of the organization in which an analyst works. Finally, cognitive biases are based on the individual's knowledge or how an analyst categorizes knowledge, remembers patterns, or learns new information.[19] This section will primarily examine the effects of cognitive and organizational biases.

All individuals develop mental shortcuts or "rules of thumb" which help categorize, recognize, and process information. Psychologists refer to these "rules of thumb" as *heuristics*.[20] Heuristics are essential to man's ability to deal with new information; pattern recognition and mental modeling or imaging can help solve new problems based on experience. Heuristics which lead to incorrect outcomes, thereby becoming an impediment to proper problem solving or analysis, are commonly referred to as biases[21].

Psychologists have identified many individual cognitive biases. A summary of those addressed in this brief analysis follows:

- **Availability**: The likelihood of something happening may be judged by how easily examples of it come to mind.

- **Representativeness**: People tend to assess that some object or event is more likely to generate some other object or event if the two are similar.

- **Habit**: Choices are based on prior satisfaction[22].

- **Confirmatory**: The inclination to seek and accept only information which supports a preconceived notion about what is the proper choice[23].

All of these biases simply seek to explain why humans make decisions or judge information in a less-than-objective

way. The common theme in all of these biases is that they are based on preconceived notions, habits, or previous experience or knowledge.

Availability bias can cause an analyst to judge incorrectly the probability of an event occurring based on a vivid memory or instance. A good strategic example would be for an analyst to overrate consistently the probability of the U.S. becoming embroiled in a quagmire in Haiti, Somalia, or Bosnia simply because of the vividness of the Vietnam War.

Representativeness bias is similar to stereotyping. If an analyst branded an enemy military as Soviet-style based simply on type of equipment, nationality, or form of government, without evidence of their actual tactics and doctrine, he would be guilty of this bias. The failure to assess accurately the capabilities of the Chinese PLA may have been a result of this bias. The analysts in X Corps and Eighth Army may have been biased by the fact that the PLA was an Oriental communist army, causing them to conclude that the PLA was similar to the NKPA.

An analyst may make choices based simply on habit. If a staff officer has been successful in past operations using a certain method, form of maneuver, or targeting process, he may choose the same process or solution again because of his previous success, regardless of the unique circumstances of the problem. Napoleon may have been influenced by this bias. He had been so successful fighting antique European

armies prior to 1809 that he may have continued to fight the same way out of habit in spite of the improvement in his opposition after that time.

The confirmatory bias is very common. If an analyst or staff officer has a preconceived notion about the solution to a problem, proper course of action, or most likely enemy course of action, then he may tend to give more weight to evidence which supports that viewpoint. Again, the staff officers fighting the PLA may have been influenced by this bias. Preferring to fight a familiar, Soviet-style enemy, the staff could easily have emphasized all of the similarities between the PLA and the NKPA, while down-playing the differences.

This brief analysis of cognitive bias illustrates how previous experience and knowledge can cause staff officers to conduct flawed analysis in new situations. Staff officers build experience through training and war; their susceptibility to cognitive bias should serve as a warning against a training regimen which focuses on too few scenarios and missions. A brief overview of organizational bias will illustrate the types of biases which a staff may be prone to as a group.

Most organizations or institutions are prone to bias. Some would say that the US Army has a bias toward high-tech solutions to problems; others would suggest that the army has a bias toward high intensity, overwhelming force as part of a total war effort rather than constrained operations in

a limited objective war.

In addition to biases which are specific to an organization's unique structure, history, culture, and outlook, there are other obstacles to versatility which might be grouped under organizational biases. There are times when members of an organization or staff perform good analysis of a new situation, yet are reluctant or slow to make the necessary changes or recommendations to address the new environment.

Charles Fombrun, in Turning Points: Creating Strategic Change in Corporations, explains that the conduct of firms is a result of capabilities (technological and human skills), controls (bureaucratic hierarchies, organizational structures, etc), and cultures (shared understanding, codes of conduct, institutional norms, etc). He goes on to offer an explanation for organizational inertia: "The passage of time tends to align capabilities, controls, and cultures, and so constrains firms' conduct."[24] Paul Strebel, in Break Points, assesses companies' resistance to change as a result of closed attitudes based on success, ingrained strategies, entrenched culture, rigid structures and systems, and "counterproductive change dynamics". Management analyst James Belasco states flatly: "Organizations are like elephants - slow to change."[25]

Fombrun also addresses individual and organizational bias which tends to inhibit firms' attempts to change. He concludes that managers "misinterpret reality" for a variety

of reasons. Managers often plan their future based on bad "mental maps", since their information comes from "information-gathering systems and on rules of thumb, experience, and expert systems".[26] Fombrun's "mental maps" are similar to IPB products, since they direct the collection of information which the manager believes he needs in order to win. So a poor understanding of the environment, based on organizational biases, can actually limit the information available to the decision-maker.

Even given good, comprehensive information, organizations often distort reality. Fombrun points out that a firm's prior experiences can cause this distortion.[27] Firms can misread trends; Fombrun points out that it is natural to stress the trends that the organization can deal or is familiar with.[28] His analysis implies that it is more important to be flexible and capable of adapting to change than it is to try to be right in predicting a future change.

In sum, there is overwhelming consensus that large organizations resist change, and that organizational change is hard work. This helps explain why versatility is such a challenge; the US Army is one of the world's largest organizations, and it is organizing and training itself to accomplish a tremendous range of missions across myriad environments. Army schools are working to build this versatility in our soldiers; units are trying to train themselves for a wide variety of missions despite increased OPTEMPO and limited training resources. Even so, it is

difficult to measure how versatile division staffs are today because of the way they train.

The Battle Command Training Program (BCTP) is still developing methods for evaluating versatility. Instead of measuring the ability of a unit to react to an unforeseen mission in a contingency area, BCTP tries to evaluate the ability of a unit to react to an unforeseen change of mission within the given scenario. This is primarily due to limited time during the BCTP Warfighter Exercise; it is difficult, if not impossible, to change regions or enemies in the middle of an exercise.[29]

Although they can not change regions or theaters after STARTEX, commanders can use the BCTP seminar or the Warfighter Exercise to train and test their staff's versatility in other ways. BCTP has the flexibility to adapt the terrain and OPFOR for a given Warfighter, based on the commander's needs and mission essential task (METL) analysis; they can also keep the scenario, region, and enemy secret from the staff until STARTEX if the commander chooses to test his staff under true go-to-war conditions. As a rule, division commanders do not opt to shorten their staff's warning time in this fashion.[30]

BCTP Warfighter evaluations of divisions and corps indicate only that units are versatile enough to accomplish multiple missions in a single operation. Doctrinal knowledge appears to be fairly good for the missions evaluated; again, most divisions know in advance exactly

which missions they will execute during the exercise. Planners tend to be the most versatile members of the staff primarily because they are used to developing contingencies, branches and sequels. They are therefore often less disturbed by mission changes[31].

Division staffs appear versatile enough to handle an abrupt change of mission, and staff officers familiar with contingency planning tend to be more versatile than those not. However, the army does not evaluate the versatility required to adapt to a short notice deployment to a strange region to conduct either war or OOTW, save during an actual operation. This remains a responsibility for division commanders.

IV. FEASIBILITY OF "VERSATILITY TRAINING"

Commanders must not make the mistake of assuming that their staffs are versatile. History has too many examples of good staffs which were unable to adjust to unfamiliar conditions. It is easy for organizations and individuals to develop biases which can block good analysis. It is not sufficient to point out how difficult it is to be versatile; commanders need to know whether they can train to eliminate these biases, and how to do it.

Teaching "what to think" is easier than teaching "how to think". It is easier to teach staff officers doctrine than it is to teach them to analyze problems. However, there is some evidence that both are amenable to training.

Establishing or building upon a broad base of doctrinal

knowledge is the first challenge, and probably the easiest to address. It is relatively easy to train staff officers on specific topics and then evaluate their knowledge. Most common classroom training is designed to build knowledge.

It is more difficult to train a staff on procedures to acquire knowledge and to learn quickly, even provided its analytical skills are good enough to identify and evaluate the new information it needs. The training requirement is easy to express: "identify the information required to support planning and decision-making, then obtain all available information in time to support planning and decision-making." The problem in training for this task is the support required to establish realistic conditions and evaluate the task.

There is a good possibility that an alerted division will not only be going to an unfamiliar area of the world, but it will be deploying in an unfamiliar configuration, under a higher headquarters with which they have not worked before. The commander must set realistic conditions to train for this task; he must exercise the staff in an unfamiliar scenario, under time pressure, in a variety of task organizations and command relationships. Measuring the success of the staff in their task of gathering and learning new information is relatively simple. Evaluators can compare the information which the staff collects and uses against the information available, and can test staff officers (either subjectively or in an objective test) on

their knowledge of the mission and environment after the exercise.

There is evidence that it is also possible to affect, through training, analytical biases and organizational resistance to change. One of the most common prescriptions to combat biases and organizational resistance to change is awareness training. Baruch Fischhoff, in Debiasing, recommends training on bias awareness followed by an "extended program of training with feedback, coaching, and whatever else it takes to afford the respondent cognitive mastery of the task."[32] In The Decision Dilemma -- Cognitive Bias, LTC William P. Stormer advises bias awareness, emphasis on the decision-making process in Service schools, and resisting the temptation to try to speed up the process, since this might encourage the use of biases.[33] Although FM 34-3 states "Overcoming bias is a vital step to proper analysis"[34], no prescription is offered, implying that awareness is a key.

Another way to help mitigate the effect of analytical biases is to expose the staff to many different scenarios or environments. Most of the cognitive biases we have addressed are the result of staff officers' prior experiences and successes. It follows that a wide variety of experiences will tend to discourage the development of these biases. In effect it may be possible to actually develop heuristics which are general enough that they are less likely to develop into biases, yet specific enough to

be useful for analysis.

James M. Royer, Doctor of Psychology at the University of Massachusetts, presented a useful hypothesis on this subject. He contended that it is critical to determine precisely what the trainee (in our case, a staff officer) must be able to do, and, most importantly, across what spectrum of environments. In those situations where the trainee will only be expected to perform tasks in conditions which can be duplicated in training, then relatively low-level knowledge, combined with practical experience in the specific task, should suffice. If the range of tasks and conditions is so wide that it is virtually impossible to replicate them entirely in training, then it is more important for the trainee to acquire complex knowledge, followed by broad experience in a variety of tasks[35]. Royer used an illustrative example. If the goal is to train an individual to trouble-shoot a specific kind of radio, it is only necessary to train him in the basics of electronics and communications theory, followed by extensive practice with the specific radio. If, however, the goal is to train an individual to trouble-shoot many different types of radios, it is more necessary to train him in advanced electronics and communications theory, followed by experience in trouble-shooting a wide variety of radios[36]. The implication for staff training is that today's staff officer needs more complex knowledge of the doctrine for all possible missions for his unit, followed by broad training

experience in a wider variety of missions and environments.

Fischhoff also believes that it is possible to teach expert thinking or "cognitive mastery" of a task. He lists conditions which are generally conducive to this training: "abundant practice with a set of reasonably homogenous tasks may be used to hone judgmental skills or to develop situation-specific habitual solutions, freeing themselves from the need to analyze (think)"; task specific reinforcement; and "explicit admission of the need for learning." This implies that the goal would be to practice the task in enough different situations that the analyst is able to conduct it in any situation.

Psychologists Jared Freeman and Marvin Cohen have taken a slightly different approach to the same problem. They advocate "training metacognitive skills for situation assessment"[37]. Metacognition has been defined as "individuals' knowledge of the states and processes of their own mind and/or their ability to control or modify these states and processes"[38]. For example, if an expert is aware that he tends to assess situations by recognition of patterns based on experience, he can then devise methods to prevent his thought process from biasing the solution. They attempted in this study to determine whether metacognitive skills could be trained, and whether these skills would help an expert decision-maker deal with novel problems. Their approach actually tries to move beyond simple analysis, since analysis is founded on a "logically consistent set of

judgements about probabilities and values" and since so many biases have been identified which hinder analysis[39].

Their metacognitive process involves the "constructing of a situation model or plan when recognition is uncertain" and "verifying the results of recognition"[40]. It builds on recent research which indicates that experts, rather than using simple recognition or analysis, will actually construct a new model in an unfamiliar environment, then will "manipulate a situation until they recognize it"[41]. Following this manipulation the expert critiques and corrects his initial assessment and plan. This process is more bias-free because it has a self correction which helps eliminate problems of faulty memory or recognition. They believe that this approach will help staff officers handle the unexpected and uncover hidden assumptions in plans.

Cohen and Freeman have had some success teaching these skills to Army staff officers, although their approach is relatively new and not fully tested. Additionally, the Army Research Institute will include metacognitive skills as part of its training for Command and General Staff Officers Course students in battle command and adapting to new environments. It is worth noting that they believe that it is important to use non-routine scenarios, since these discourage simple recognition, and encourage metacognition[42].

Although there is no unanimity among psychologists as to specific methods, it is clear that most believe that it

is possible to teach problem solving skills more suitable for handling the unexpected, and to mitigate the effects of bias in analysis. The easiest solution is bias awareness training. Clearly, if this alone were effective, analytical bias would not be a problem. Those who address training conditions tend to be consistent in one respect: if the goal is to train decision-making (or analysis) in conditions of uncertainty, then the training conditions should include a wide variety of tasks and conditions in order to discourage bias or simple recognition. The Army has already discovered this; FM 25-100, Training the Force states that units should "train as you fight"[43]. If the Army expects its staffs to deal with uncertainty, to be prepared to learn quickly and solve problems without bias, then it needs to train its staffs to do so in realistic conditions which demand these skills.

There are some good examples of units which have done just that. Examine the approach which then Lieutenant General Franks took to training VII Corps prior to the invasion of Kuwait, and the approach taken by US Marine units in their normal training. After the fall of the Berlin Wall the senior leadership of US Army Europe and V and VII Corps recognized that corps METL had instantly expanded from its traditional GDP focus. USAREUR corps now had to be capable not only of defending, but also moving as corps over long distances in tactical formations, conducting meeting engagements, and attacking as a corps. As a result,

corps level training focus changed.

REFORGER 90 was a corps-on-corps CFX (command field exercise) to train brigade and above commanders and staffs to operate under General Saint's "agile corps" concept. VII Corps conducted a corps movement to contact with the 2nd Armored Cavalry Regiment, the 1st Armored Division, the 10th Mountain Division and conducted a secondary attack with the 1st Infantry Division (Mechanized) and the 12th (German) Armored Division. This mission caused the unit commanders and staffs to analyze and plan for relatively unfamiliar mission in a combined environment with both heavy and light forces.[44]

Later that year the VII Corps commanded the 1st Infantry Division (Mechanized) in a BCTP exercise which required the division to fight a meeting engagement against a combined arms army, and then the 3rd Infantry Division (Mechanized) in a scenario which placed the division in a north-south orientation on German terrain, rather than east-west.[45]

It is critical to note that Lieutenant General Franks felt required to "shake things up" in the VII Corps in order to change their mindset. If it were true that a well trained staff should be able to easily transition to a new mission or environment, then this change in emphasis would not have been necessary. Franks recognized that familiarity with ground, templated enemy situations, and familiar missions tended to alleviate staff officers of the

requirement to think; the heuristics for the German GDP were so ingrained that new scenarios were required to make the staff more capable and versatile. As General Franks stated: "The changing conditions were perfect for developing versatility and initiative and for breaking the ideas that had molded our European-based Army since the establishment of the Warsaw Pact."[46]

General Franks emphasized how important this type of training was to the corps. He believed that the corps was much more versatile as a result of this training, and thus was better able to transition to mobile warfare in the desert than if they had not specifically trained for versatility. He summarized his view on versatility: "Leaders and units must practice agility and versatility when planning and conducting training. Vary scenarios. Expect to make adjustments."[47]

The Marines' culture emphasizes versatility, so much so that they have taken to billing themselves as "America's 911 Force". Since the Marines have never had the same emphasis on a focused GDP that Army heavy forces have, they have always had to deal with uncertainty as to their next mission or environment. The result is that the Marines emphasize versatility in their training to a great degree.

Marine units do not know their scenario, mission, or enemy prior to a training deployment to Twenty-nine Palms, the Marine equivalent of the National Training Center. Whereas Army units study the OPFOR and the terrain in great

detail prior to BCTP or NTC, the Marines believe it is more important to train their units to deal with uncertainty than it is for them to train against a known enemy on familiar terrain, with a wealth of planning time prior to deployment.[48] This type of training reinforces Marine versatility.

Marine culture and training pay off in versatility. To cite one recent example, the Marines fought in Operation DESERT STORM as large (division-sized) units; normally they train and operate as MEBs (Marine Expeditionary Brigade). During Desert Shield, the units of the 4th MEB (Afloat) conducted Operation EASTERN EXIT to evacuate non-combatants from Somalia, then returned to the war in time to be prepared to perform an amphibious assault as part of the MEB. The 5th MEB then conducted Operation SEA ANGEL to provide humanitarian assistance in Bangladesh, before finally returning home from the Gulf.[49] The key point is not that the Marines are versatile. What is important is that the Marines feel a need to train to be versatile by ensuring that their units are tested and trained in unfamiliar scenarios, under time pressure.

Versatility is more than simply a state of mind. Attitude and willingness to take on any mission, any time, anywhere is important, but is not sufficient in itself. It is essential to train the staff in the critical skills which will enable them to perform in any environment. The last task is to design a training method for staff versatility.

V. TRAINING THE VERSATILE DIVISION STAFF

US Joint Chiefs of Staff military strategic planners assume that national decision makers will have a matter of days from first warning to a decision to deploy US forces to respond to a crisis[50]. Even so, US Army divisions of all types routinely give their staffs four to six months or more to study the terrain, enemy, and expected missions prior to a Warfighter Exercise at the Battle Command Training Program[51]. This method of training is not likely to build versatility in the staff.

The Army's training doctrine is sound. FM 25-100, Training the Force, describes a process which allows for great versatility. The Training Management Cycle describes the process which the Army envisions units using to conduct training:

1. Develop Mission Essential Task List
2. Prepare Training Assessment
3. Plan Training
4. Execute Training
5. Assess Training[52]

With the proper analysis, this training management process can be used to assess and train for versatility in the staff.

A key to good training is the mission analysis which results in the METL. The Army's original intent in developing the METL was to enable units to focus only on those tasks which were mission essential (as the name implies) without wasting training time or resources on other tasks. As the unit's list of mission essential tasks

expands, this function of the METL seems to lose some of its utility. This does not, however, relieve the staff of the requirement to analyze and develop the METL, for the list serves other purposes as well.

Although FM 25-100 does not state it explicitly, mission essential tasks are not complete without conditions and standards. The first time FM 25-100 introduces conditions and standards is during the development of training objectives. Training objective conditions and standards should relate directly to wartime conditions and standards. Since these can vary according to contingency, this analysis is key to defining the requirement for versatility. The staff must define, *to as much specificity as possible*, the conditions and standards for each mission essential task, by contingency. Note that these should, wherever possible, be wartime conditions, not simply extracts from Mission Training Plans. A mission essential task matrix will result which lists tasks, and for each foreseeable contingency, lists conditions and standards.

The advantages to this method of METL development include:

- It requires input and analysis from the entire staff. As an example, the G2 must be involved in the definition of the enemy, terrain, and weather inherent in every condition statement.

- The development of the METL becomes a training exercise in itself, as it requires the staff to try to

envision the full range of tasks, and associated conditions and standards for each contingency.

- The development of the METL requires a thorough review of the division's wartime contingencies, and will help the staff identify gaps in doctrinal and situation knowledge for the tasks.

- OOTW missions can be included as "be prepared" missions for the staff.

The result will be a set of unit tasks for which the staff must be able to perform the tactical decision-making process, and associated conditions which the staff must be able to address in its analysis. This set of tasks, conditions, and standards becomes the basis for the staff METL. For the staff, possibly the most important training condition will be time available. The time available for the staff process prior to a training event should be similar to the time a unit can expect during transition to war, while the time available during the training event should be driven by the expected pace of combat operations.

The next step will be the development of training objectives for the staff. For the tactical decision-making process, it may be that the training objective simply includes all of the variable conditions which the staff must be prepared to analyze or perform in. The application of training resources and time necessarily limits the amount of scenarios which can be used to train the staff. However, provided the range of possible training scenarios is broad

enough, then the staff can be forced to develop a broader perspective and better versatility simply by not providing them with advance warning of the training scenario prior to the event.

The next phase of the Training Management Cycle is the training assessment. During this phase, the commander must judge, according to past performance, the strengths and weaknesses of his unit in its mission essential tasks. It is here that the commander will begin to decide where to apply his training resources for the coming training period, since he will necessarily apply resources to improve those areas where the unit is weak. This means that if the staff has demonstrated appropriate versatility during the most recent training period, either in training, or in the execution of actual operations, the commander can always choose not to emphasize training scenarios which are designed to stress staff versatility.

In any case the commander must ensure that he judges how capable his staff is over a wide spectrum of missions and conditions. If his staff has had to develop contingencies and operate over a wide spectrum of actual operations, then the commander can evaluate the staff based on this performance. If the staff has not had that opportunity, then the commander must have a method for evaluating versatility in training; this implies that the commander should subject the staff to unforeseen scenarios and short warning at least once during the training cycle in

order to assess their versatility and ability to react. Then, in his evaluation, the commander should try to assess where the staff is weak. Did they simply lack the required doctrinal knowledge to adequately solve the problem? Were they unable to identify sources of information, gather information, or learn quickly enough to support planning? Was the staff, given good doctrinal knowledge and plenty of information, simply weak in analysis?

The next step in the training management process is to actually plan training. If the commander's assessment indicates that his staff needs to be more versatile, then there are a number of methods which he can use to increase its versatility.

There are several ways to address a lack of broad doctrinal knowledge. The commander may decide to use his officer professional development program to increase staff knowledge. This approach may be especially useful for OOTW missions, since the commander may not choose to spend large resources, such as those required for a CPX, to train an OOTW scenario. If the commander can identify a specific mission or environment in which the staff is weak, he may choose to plan a staff exercise which introduces a new mission or environment to the staff, but give the staff plenty of time to study the problem prior to actually executing the training event. This approach will give the staff the time to build a good knowledge base, but will not stress their ability to gather information and analyze it

under time pressure.

Training a staff which is weak in its ability to gather information quickly on a new environment or mission is more difficult. The problem may be that the staff is either unfamiliar or lacks practice identifying sources of information (such as the Army's National Ground Intelligence Center, or the Defense Intelligence Agency, or the Defense Mapping Agency, or a Unified and Specified Command, or the Joint Staff, etc), or is unsure of proper request procedures, or is unfamiliar with automation or software used in the joint/combined environment in which they will have to operate, or any number of other reasons. Part of this can be addressed in professional development, but practice under realistic conditions is key. The commander must identify the resources required to place his staff in a situation which reasonably replicates the environment in which it may operate in war or transition to war. The commander must then place this requirement for training support on the appropriate agencies or commands far enough in advance for the training to occur. It may be that a major event such as a BCTP may be the only time he will be able to get the support of joint or national agencies; if so, the commander must be prepared to use the BCTP as a training event, rather than primarily as an evaluation of homestation training, since his staff will be in unfamiliar conditions.

A key to training the staff in acquiring and learning

new information rapidly is to shorten the warning time. The staff must not be allowed a great amount of time to gather information for a new mission or environment (unless the objective is simply to increase the knowledge base of the staff). Shortening the warning time will not only force the staff to learn how to get information quickly, it will also force them to spend more time identifying the procedures which must be in place for the staff to learn quickly in war. In effect, the staff will "learn to learn quickly" in order to be able to perform under time pressure, and will spend less time building a large data base for a foreseen scenario. If the commander is willing to take the risk of "losing" to the World Class OPFOR in order to place his staff under more realistic time constraints, he should consider shortening the warning time for his BCTP. He could ask the BCTP to keep his scenario secret until 90 days (or 60, or whatever his analysis deems appropriate) prior to the event in order to exercise his staff's ability to learn quickly. Combined with training support from joint, echelons above corps (EAC), or national agencies, the commander can put his staff in very realistic conditions.

If the commander's assessment is that his staff is weak in analysis of new missions, he can address this weakness in a number of ways. Again, professional development is a good start. This should include bias awareness, as well as techniques for critiquing plans and estimates. If the commander makes a conscious effort to train to be versatile,

bias awareness will not be an issue; the staff will be aware of the dangers of biased analysis simply due to the emphasis which the commander puts on the subject.

Training bias-free analysis will then require that the commander vary scenarios for his training events. Without varying scenarios and missions, it will be impossible to identify analytical weaknesses or biases which exist in the staff; if the staff is allowed to focus and prepare for one scenario, they will tend to build a very deep base of knowledge (which they will be unlikely to have in war) which may cover up weaknesses in analysis which would be highlighted by a less familiar scenario.

The final step is to conduct training. Commanders should train their staffs for versatility with the following principles in mind:

- The training event begins as soon as the staff has knowledge of the scenario; this corresponds to the point at which the unit might receive initial warning prior to war.

- Training scenarios should be as similar to contingency plans as possible. This will promote a sense of realism in the staff.

- Commanders should require contingency plans developed in staff training to include an annex which addresses unit training between alert and deployment. This will enhance unit versatility by requiring the staff to analyze the training requirements for the division as part of each type contingency which they address during staff

planning exercises.

This paper does not analyze in detail the potential costs of this type of staff training. Divisions will certainly need to address this as they do for all training. There may be a cost to the unit in time spent for scenario development, although assistance from TRADOC and corps or U&S commands may mitigate this, as might future development of automated scenario developers. The division staff might spend more time preparing for exercises than previously if they try to build the same depth of knowledge for all possible scenarios as they could when they planned for one scenario. Commanders may need to adjust their expectations so that staff officers do not feel a requirement to achieve an unachievable standard of knowledge for all contingencies.

VI. CONCLUSION

Versatility is more than just an attitude - it results from skills which can be improved by training. It is dangerous to assume that a staff which can perform well in the "worst-case" scenario can also perform well in other scenarios; commanders should resist the impulse to train their staff in one focused scenario, no matter how challenging. It may well be that the "worst-case" for staff training is to be forced to perform in an unfamiliar situation, under time pressure, rather than against the technologically toughest enemy or in the harshest terrain.

Since the staff must be prepared for a wide variety of missions and environments, with short warning times, they

must have a broad base of doctrinal knowledge; be able to gather information and learn quickly; and be capable of high quality, bias-free, speedy analysis. These skills can best be developed by building a broad base of knowledge in TRADOC schools and unit professional development, making the staff aware of the dangers of cognitive and organizational bias, and subjecting the staff to realistic conditions: no foreknowledge of training scenarios; shortened warning times; and varied scenarios and missions. This approach to training will result in a staff which continues to perform to a high standard regardless of the environment.

ENDNOTES

1. The White House, A National Security Strategy of Engagement and Enlargement, (U.S. Government Printing Office, Washington, DC, July 1994), p. 1

2. Ibid., p. 6-7.

3. U.S. Army, Field Manual 100-5, Operations, (Department of the Army, Washington DC, 14 June 1993), p. 2-9.

4. Ibid., p. 2-9.

5. Ibid., p. 2-9.

6. Ibid., p. 13-8.

7. U.S. Army, Field Manual 101-5, Command and Control for Commanders and Staff, (Final Draft) (Fort Leavenworth, KS, August 1993), p. 2-17.

8. Ibid., p. 4-74.

9. US Army, FM 100-5, Operations, p. 2-9.

10. Robert M. Epstein, Napoleon's Last Victory: 1809 and the Emergence of Modern War, (manuscript reproduced by US Army Command and General Staff College School of Advanced Military Studies, Ft Leavenworth, KS, 1992) P. 274-279.

11. James L. Stokesbury, A Short History of the Korean War, (Quill, New York, NY, 1988), p. 101.

12. Eliot A. Cohen and John Gooch, Military Misfortunes: The Anatomy of Failure in War, (The Free Press, A Division of Macmillan, Inc., New York, NY), p. 165.

13. Matthew B. Ridgway, The Korean War, (Da Capo Press, New York, NY, 1967) p. 88-89.

14. T.R. Fehrenbach, This Kind of War, (The Macmillan Company, New York, NY, reprinted by USACGSC, Ft Leavenworth, KS, 1994), p. 300-301.

15. Ibid., p. 177.

16. Ibid., p. 192.

17. US Army Center for Army Lessons Learned, Operation JUST CAUSE Lessons Learned, (Volume II, Operations)(US Army Combined Arms Command, FT Leavenworth, KS, OCT 90), p. II-14 thru II-16. The lessons learned do not pin the blame for the difficulties with MOUT. Although it is conceivable that

the unit staffs had already solved these problems, but that the unit performed badly due to lack of practice, lack of staff versatility is almost certainly a component of the problem. Most of the shortfalls cited were such that a versatile staff could have done much to prevent them by appropriate planning and ROE modifications. There is no indication in the lessons learned that this was done.

18. Thomas Donnelly, Margaret Roth, and Caleb Baker, Operation Just Cause, (Lexington Books, New York, NY, 1991), p. 390.

19. U.S. Army, Field Manual 34-3, Intelligence Analysis, (Department of the Army, Washington, DC, 15 March 1990), p. 5-11 thru 5-12.

20. LTC William P. Stormer, The Decision Dilemma -- Cognitive Bias, (U.S. Army War College, Carlisle Barracks, PA, 5 April 1991), p. 2.

21. NATO Defence Research Group, COADE: A Framework for Cognitive Analysis, Design, and Evaluation, (TNO Human Factors Research Institute, Soesterberg, The Netherlands, July 1994), p. 151-153.

22. Ibid., p. 151-153.

23. Stormer, p. 5.

24. Charles J. Fombrun, Turning Points: Creating Strategic Change in Corporations, (McGraw-Hill, Inc, New York, NY, 1992), p. 49-50.

25. James A. Belasco, Teaching the Elephant to Dance: Empowering Change in Your Organization, (Crown Publishers, INC, New York, NY, 1990), p. 2.

26. Fombrun, p. 70.

27. Ibid., p. 72-73.

28. Ibid., p. 78.

29. LTC Quentin Schillare, BCTP C2 Observer-Controller, interview conducted 3 November 1994.

30. Ibid. In eighteen months of observing division staffs, LTC Schillare has not seen any unit deny themselves foreknowledge of BCTP Seminar or Warfighter scenario information in order to train for versatility. It is possible, but highly unlikely, that a unit could have tried this previously.

31. Ibid.

32. Baruch Fischhoff, Debiasing, (article published in Kahnemann, Slovic, and Tversky Judgement Under Uncertainty: Heuristics and Biases) (Cambridge University Press, Cambridge, MA, 1982) p. 422-444.

33. Stormer, p. 20-23.

34. FM 34-3, p. 5-13.

35. James M. Royer, Ph.D., presentation to Department of Defense Research Roundtable Issues in Psychological Research and Application in Transfer of Training, (Army Research Institute for the Behavioral and Social Sciences, February 27-28, 1986), p. 23-24.

36. Ibid., p.23.

37. Jared T. Freeman and Marvin S. Cohen, Training Metacognitive Skills for Situation Assessment, (paper presented at 1994 Symposium on C2 and Decision Aids) (Cognitive Technologies, Inc, Arlington, VA, 1994), p. 1.

38. Gavelek, J.R., and Raphael, T.E., Metacognition, cognition, and human performance, (Academic Press, New York, NY, 1985), quoted in Freeman and Cohen, p. 4.

39. Ibid., p. 1.

40. Ibid., p. 5.

41. Ibid., p.5.

42. Ibid., p. 8.

43. US Army, Field Manual 25-100, Training the Force, (Department of the Army, Washington, DC, 15 November 1988), p. 1-3.

44. GEN Frederick M. Franks, Jr., "New Roles as the Cold War Ends", Army, (AUSA, Arlington, VA, VOL 43, NO. 3, March 1993), p. 16.

45. Ibid., p. 17.

46. Ibid., p. 18.

47. Ibid., p. 22.

48. MAJ Dan Schuster, interview 4 November 1994.

49. Marine Corps Gazette Staff, "The Corps' Aggregate Usefulness", Marine Corps Gazette, NOV 1991, p. 75.

50. Department of Defense, 1991 Joint Military Net Assessment, (DOD, Washington, DC, 1991), p. 9-2.

51. Battle Command Training Program, Internal SOP, (BCTP, Ft Leavenworth, KS, 1993), p. M-3. Most units follow the following schedule, with some minor variance: prior to a seminar, they know the missions, region and enemy approximately 150 days prior to the event; prior to a Warfighter, they know the same information approximately 180 days prior to the event, and generally have the Road to War scenario about 140 days in advance.

52. US Army, Field Manual 25-100, Training the Force, (Department of the Army, Washington, DC, 15 November 1988), p. 1-9.

BIBLIOGRAPHY

Books

Belasco, James A. Teaching the Elephant to Dance: Empowering Change in Your Organization. Crown Publishers, INC, New York, NY, 1990

Chandler, David G. The Campaigns of Napoleon. Macmillan, New York, NY, 1966

Cohen, Eliot A. and Gooch, John. Military Misfortunes: The Anatomy of Failure in War. The Free Press, New York, NY, 1990

Donnelly, Thomas, Roth, Margaret, and Baker, Caleb. Operation Just Cause. Lexington Books, New York, NY, 1991

Epstein, Robert M. Napoleon's Last Victory: 1809 and the Emergence of Modern War. (manuscript reproduced by US Army Command and General Staff College School of Advanced Military Studies) Ft Leavenworth, KS 1992

Fehrenbach, T. R. This Kind of War. The Macmillan Company, New York, NY (reprinted by USACGSC, Ft Leavenworth, KS, 1994)

Fombrun, Charles J. Turning Points: Creating Strategic Change in Corporations. McGraw-Hill, Inc, New York, NY, 1992

George, Alexander L. The Chinese Communist Army in Action; The Korean War and its Aftermath. Columbia University Press, New York, NY, 1967

Heller, Charles E. and Stofft, William A. America's First Battles, 1776-1965. University Press of Kansas, Lawrence, KS, 1986

James, D. Clayton. Refighting the Last War; Command and Crisis in Korea 1950-1953. The Free Press, New York, NY, 1993

Kahneman, Daniel and Slovic, Paul and Tversky, Amos. Judgement Under Uncertainty: Heuristics and Biases. Cambridge University Press, Cambridge, MA, 1982

Marshall, S.L.A. The River and the Gauntlet. William Morrow and Company, New York, NY, 1953

Mossman, Billy C. Ebb and Flow; November 1950 - July 1951.

Center of Military History, US Army, Washington, DC, 1990

Rees, David. Korea: The Limited War. St Martin's Press, New York, NY, 1964

Ridgway, Matthew B. The Korean War. Da Capo Press, New York, NY, 1967

Stewart, Richard W. Staff Operations: The X Corps in Korea, December 1950. Combat Studies Institute 1991

Stokesbury, James L. A Short History of the Korean War. Quill, New York, NY, 1988

Strebel, Paul. Breakpoints: How Managers Exploit Radical Business Change. Harvard Business School Press, Boston, MA 1992

Tiberi, Moberly, and Murphy. Force Projection: Seeds for a New Doctrine.

US Marine Corps. US Marines in the Persian Gulf, 1990-1991: Anthology and Annotated Bibliography History and Museums Division, HQ, US Marine Corps, Washington, DC 1992

The White House. A National Security Strategy of Engagement and Enlargement, U.S. Government Printing Office, Washington, DC, July 1994

Manuals

Battle Command Training Program. Internal SOP. BCTP, Ft Leavenworth, KS, 1993

US Army. ARTEP 71-100-MTP, Army Training and Evaluation Program Division Command Post Mission Training Plan. (Proposed Coordinating Draft) Department of the Army, FEB 1992

US Army. FM 25-100, Training the Force. Department of the Army, November 1988

US Army. FM 34-3, Intelligence Analysis. Department of the Army, 1990

US Army. FM 100-5, Operations. Department of the Army, June 1993

US Army. FM 101-5, Command and Control for Commanders and Staff. (Final Draft) 1994

US Marine Corps. FMFRP 0-1, Training in Units.

Periodicals

Franks, Frederick M., Jr, GEN. "New Role as the Cold War Ends", Army, March 1993, pages 14-22.

Pant, N. and Starbuck, W. "Innocents in the Forest: Forecasting and Research Methods" Journal of Management, 1990 Special Issue

Sullivan, Gordon R., GEN. "Flexibility Sets the Pace at Combat Training Centers", Army, July 1993, pages 28-35.

"The Corps' Aggregate Usefulness", Marine Corps Gazette, November 1991, p. 75

"Operation Just Cause MOUT Lessons Learned" Infantry, MAY-JUNE, 1991

Research Papers and Reports

Butterfield, A. P. JR, LCDR, USN. The Accuracy of Intelligence Assessment: Bias, Perception, and Judgement in Analysis and Decision. Naval War College Research Paper, Newport, R.I., 18 June 1993.

Department of Defense. 1991 Joint Military Net Assessment. DOD, Washington, DC, 1991

EER Systems Corporation. Modular Command Post Concept, Battle Command Assessment. Contracted by Battle Command Battle Lab, CAC, CD

Fallesen, Jon J. A Framework for Identifying Cognitive Decision Aid Requirements. US Army Research Institute Paper

Fallesen, Jon J. Overview of Army Tactical Planning Performance Research. US Army Research Institute for the Behavioral and Social Sciences Technical Report 984, Sep 1993

Frandsen, MAJ Burt. The Battle Command Training Program: An Evaluation of BCTP and the Application of Airland Battle. SAMS Monograph First Term AY 89/90

Freeman, Jared T. and Cohen, Marvin S. Training Metacognitive Skills for Situation Assessment. Paper presented at the 1994 Symposium on C2 and Decision Aids

Kahan, James P. Implementing the Battle Command Training

Program. Rand Corp, Santa Monica, CA, 1989

Martz, MAJ Joseph E. Operational Planning Hindered by Tactical Planning. SAMS Monograph Second Term 90-91

NATO Defense Research Group. COADE: A Framework for Cognitive Analysis, Design, and Evaluation. TNO Human Factors Research Institute, Soesterberg, The Netherlands, July 1994.

Stormer, LTC William P. The Decision Dilemma--Cognitive Bias. US Army War College Military Studies Paper, 5 APR 1991

US Army Center for Army Lessons Learned. Operation JUST CAUSE Lessons Learned. (Volume II, Operations) US Army Combined Arms Command, Ft Leavenworth, KS, OCT 90

Whiting, Allen S. China Crosses the Yalu: The Decision to Enter the Korean War. Rand R-356 Santa Monica: RAND, 1960

Issues in Psychological Research and Application in Transfer of Training. (Summaries from the Department of Defense Research Roundtable) Organized by the American Psychological Association in cooperation with the Federation of Behavioral, Psychological, and Cognitive Sciences for the US Army Research Institute for the Behavioral and Social Sciences

Interviews

Schillare, LTC Quentin. Operations Group A Command and Control Observer-Controller, 3 and 21 November, 1994

Schuster, MAJ Daniel J. (USMC) SAMS Student, 4 November 1994